Canon

EOS 20D
DIGITAL

THE CANON EOS 20D DIGITAL CAMERA:

AN EXTRAORDINARY COMBINATION OF PERFORMANCE AND VALUE

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I. OVERVIEW

At first glance, the new Canon EOS 20D seems to be an evolutionary product, a thorough redesign of the highly successful EOS 10D. The 20D is, in fact, so remarkable that it completely redefines the mid-price category of digital single lens reflex cameras. At its full 8.2 megapixel resolution, it fires up to 23 frames continuously at 5 frames-per-second. With its quick start-up, fast write speeds, new autofocus unit, sophisticated E-TTL II autoflash algorithm and extensive controls, the EOS 20D performs above the level of most high-end D-SLRs of the recent past.

Each camera in the Canon line is, of course, positioned in the market with great care. The Digital Rebel is the entry level D-SLR with 6.3 megapixel resolution, 7-point wide area autofocus, 12 shooting modes, direct print support, Canon EOS System compatibility and image quality that satisfies even critical viewers. It is a landmark camera: the first D-SLR under the magic $1000 price point, even in lens kit form with the inclusion of the Canon EF-S 18-55mm f/3.5-5.6 lens. On the other side of the EOS 20D in the Canon line-up is the EOS-1D Mark II, at $4500. This, too, is a landmark camera: it can fire up to 40 frames at 8.5 frames-per-second at full 8.2 megapixel resolution. The 1D Mark II is the world's fastest digital SLR camera. It has a "1-series" body, highly advanced focus and electronics systems, and full Canon EOS System compatibility. It is, in all respects, an extraordinary tool for professional imaging.

For about $600 more than an EOS Digital Rebel, the 20D, at $1500, has more resolution, more speed, more advanced autofocus and flash systems, more control and a magnesium alloy body with a stainless steel chassis. For $3000 more than the 20D, the Canon EOS-1D Mark II has similar resolution, faster speed, more ruggedness, dual memory card slots, a bigger buffer, a smaller focal length conversion factor, similar autoflash and superior high-speed autofocus.

The EOS 20D sits between two cameras that literally define their categories. It is the product of knowledgeable compromises and synergies. By feel and by performance, the 20D could sell for at least $500, perhaps $1000, above its actual price. Its resolution is superior to that of any D-SLR costing up to $3000 more. At precisely $3000 more, one could

have the 1D Mark II. The least expensive current D-SLR that shoots faster is the Nikon D2H, which has half the resolution and costs about $1700 more. Within $500 of the 20D today, there are the Fuji S2 (to be replaced eventually with the S3 for, presumably, a greater price difference), the Nikon D100 and D70, the Olympus E-1, the Pentax *ist D, and the Sigma SD10. All these cameras are slower than, and have lower resolution than, the 20D. All but the E-1 are plastic bodied. None has the controls or the autofocus prowess of the 20D. The 20D is simply a better performing, more complete camera than anything in its general price class and a legitimate rival to cameras costing thousands more.

The EOS 20D will naturally appeal to serious amateurs who will recognize what a remarkable package of performance and value the camera represents. The 20D presents, essentially, a unique selling proposition to the thousands of wedding, newspaper and magazine photographers who must purchase their own equipment: most of the speed, resolution, control and reliability of an EOS-1D Mark II for one third of the price.

Its 8.2 megapixels can record facial details in group photos, the absolute baseline for professional wedding photography and magazine portraiture. Small and mid-size magazines and newspapers that maintain an equipment pool but have to keep a close eye on costs will find the EOS 20D perfect for their needs. The 20D is fast enough for daily news coverage and general sports shooting, and the extensive Canon EOS System of lenses, flash units and accessories is available to help configure the 20D for almost any task. The 20D weighs 24.3 ounces while the 1D Mark II weighs 43 ounces, both body only. This difference alone means that some photographers will choose the lighter camera as their primary unit and others will select it for backup duty rather than a heavier and more expensive option. Whenever value is part of the purchase decision process, the Canon EOS 20D will make a compelling case for itself.

II. SUMMARY OF FEATURES

Performance

- New 8.2 megapixel, single-plate, APS-C size CMOS sensor designed and manufactured by Canon.
- Up to 23 consecutive frames at 5 frames-per-second at maximum JPEG resolution.
- 6 frames continuous in RAW or RAW plus JPEG modes.
- New 4-channel data reading and write processing performed in parallel with shooting; huge increase in write speed and major reduction in buffer clearing time.
- The first EOS Digital SLR to feature USB 2.0 High-Speed interface; Data transfer is 11 times faster than the EOS 10D.
- Start-up time 0.2 second, 11 times faster than the EOS 10D.
- Fastest shutter release lag time in its class, 0.65 msec.
- Pixel configuration revised to enlarge light sensitive portion of each photosite resulting in more efficient light gathering and improved signal-to-noise ratio.
- High-speed shutter up to 1/8000 sec. and flash synchronization up to 1/250 sec. with improved durability.

Advanced Components

- All-new 9-point AF unit with high precision cross-type center sensor has one full stop better low-light performance than the unit in the EOS 10D.
- New, fast and highly intelligent E-TTL II electronic TTL flash algorithm, also used in the Canon EOS-1D Mark II, integrates ambient light data with subject distance, location in the frame and reflectance with color temperature data transmission.
- More compact built-in flash provides color temperature data and covers the equivalent of a 17mm field of view from a higher firing position, reducing red-eye and lens obstruction difficulties.
- New, 2nd generation DIGIC II Image Processor.
- New 2nd generation, 3-stage on-chip CMOS noise reduction circuit.
- Low-noise, high-speed output amp.
- New precision matte focusing screen features randomly distributed microlenses for easier focusing, more attractive soft-focus imaging and no coloring added to the finder image.
- Exceptional new narrow-gap, large-diameter microlens array.
- New high-speed mirror drive, normally found only in pro-level models, allows a major reduction in viewfinder blackout time.

Controls and Display

- New built-in Multi-controller provides fast, convenient and direct selection of AF points and other functions.
- Revised and simplified controls and menus.
- Recording choice of 6 levels of JPEG alone, CR2 RAW alone, or RAW plus a choice of 6 levels of JPEG kept as separate files.
- Substantially improved 1.8 inch display has approximately 118,000 pixels with 5 levels of brightness adjustment, can rotate vertical shots automatically, has a maximum magnification of 10x, is settable in 15 steps and is scrollable with the new Multi-controller.
- RGB histograms provide full color information.
- White balance controls include Auto, six presets, a Custom setting and direct specification of color temperature.
- White balance can be corrected for blue, amber, magenta or green.
- White balance bracketing up to +/- 3 whole stops for magenta-green as well as blue-amber.
- New processing parameters include 2 presets, 3 custom sets, adjustable for contrast, sharpness, saturation and color tone, and the monochrome mode which includes built-in digital filtration for yellow, orange, red and green, and print toning in sepia, blue, purple and green.
- Switchable dark noise subtraction for long exposures.
- 18 Custom Functions with 50 settings available.

EF Lenses

Compatibility and Support

- Fully compatible with the entire Canon EOS System, including EF and high-value EF-S Lenses and EOS accessories.
- New, USB 2.0 high-speed interface makes downloading images from the camera much faster.
- Supports the PictBridge, CP Direct, and Bubble Jet Direct direct-printing protocols.
- Adopts the new Canon CR2 RAW format, with increased metadata, used by EOS-1D Mark II.
- Supports Adobe RGB and sRGB, and is compatible with EXIF 2.21 and DCF 2.0.
- FAT32 formatting permits use of CompactFlash cards larger than 2 GB.

Power Management

- New power saving design promotes longer battery life without creating a “sleepy” camera.
- New BP-511A battery with 25% more power.
- Optional Battery Grip BG-E2 doubles battery power and provides a useful vertical grip shutter release.

Body and Exterior

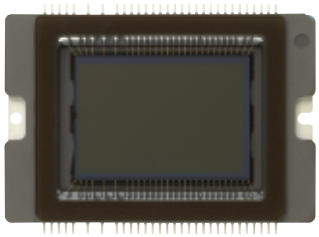
- Magnesium alloy body and stainless steel chassis create a rugged camera with a solid, high quality, professional feel.
- Lighter and more compact body than that of the 10D features the Canon logo in relief on the front of the camera, a revised grip shape and a sculpted shutter button surround.

Software and Accessories

- New software package, included at no extra cost, includes Canon's new Digital Photo Professional, EOS Viewer Utility and Adobe Photoshop Elements.
- Available in a lens kit with the EF-S 18-55mm f/3.5-5.6 lens.
- New accessories include the BG-E2 Battery Grip, 580EX Speedlite, EF-S 17-85mm f/4-5.6 IS USM and EF-S 10-22mm f/3.5-4.5 USM lenses.
- Accessory Data Verification Kit, DVK-E2, permits verification of original, untampered image data.

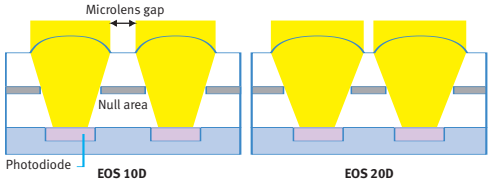
III. NEW AND IMPROVED DESIGN FEATURES

New Technology CMOS Image Sensor and Microlenses



CMOS sensor

The Canon EOS 20D has 1.7 million more pixels on its CMOS sensor than the EOS 10D's similarly sized unit, so each pixel must be smaller. However, advances in technology have made it possible for the EOS 20D to have the same ISO range as the 10D, a higher default ISO, lower noise, higher dynamic range, higher resolution and a brighter finder than the 10D. Incorporating advances first seen in the EOS-1D Mark II, Canon has increased the size of the on-chip light-gathering microlenses while reducing the gaps between them to half the size found on the EOS 10D. The result is much greater efficiency and much less light lost. Furthermore, Canon has improved the design of the photo diodes in the CMOS sensor by eliminating transistors in each pixel, making a greater portion of the surface area of each pixel sensitive to light.



The all-new 8.2 megapixel CMOS sensor in the 20D was not only designed and manufactured by Canon, but also made with equipment that was designed and manufactured by Canon. Many benefits derive from Canon's total control of the production process. All associated circuits and devices, such as the Canon-developed color filter and on-chip microlenses; the 2nd-generation, on-chip, noise-filtering circuit; the 4 channel reading; the low-noise, high-speed output amp; the infrared-blocking low-pass filter and the power-saving circuitry were designed and optimized from their beginnings to work with the new sensor, and vice versa.

New High-Speed Continuous Shooting

The Canon EOS 20D permits continuous shooting of 8.2 megapixel JPEG images, at Large/Fine recording quality, in both the One-Shot AF and AI Servo AF modes at 5 frames-per-second for up to 23 frames. Up to 6 frames can be shot continuously in RAW or RAW+JPEG.

New High-Speed Response

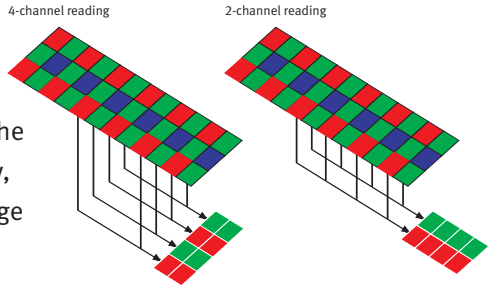
Refinements in the EOS 20D's system control algorithms permit multiple functions to be performed simultaneously. The startup time of the EOS 20D is just 0.2 second from Off. The shutter release lag time is a class-leading 65 milliseconds, and viewfinder blackout time has been reduced to 115 msec., both thanks in part to the new high-speed mirror drive.

New DIGIC II Image Processor

DIGIC II Image Processor

The new DIGIC II Image Processor shares much of its technology with the DIGIC II in the Canon EOS-1D Mark II. It features a newly developed signal processing algorithm, 4-channel, high-speed signal reading and lower power consumption. The DIGIC II boasts improved color reproduction of high-saturation, bright subjects, improved auto white balance precision, and wider dynamic range in highlight areas.

Several design features work together to achieve this performance: The new Canon designed and manufactured CMOS sensor allows 4-channel x 16 MHz data reading. The DIGIC II Image Processor provides high-speed parallel data processing for each sensor output channel, and a huge increase in write speed to the CompactFlash card. The high-speed mirror drive mechanism (mirror up/down, shutter cock/release) is normally found only in pro-level cameras. In concert with the new, compact and fast shutter unit, it reduces finder blackout time, returning the EOS 20D to focusing, metering and firing again in less time. The data writing process is now performed simultaneously with shooting, rather than after image recording has stopped, affording a major reduction in the time taken for the buffer to clear. Additionally, the buffer does not need to be empty for image recording to continue.



Noise Reduction

Fixed-pattern noise was so minimal in the EOS 10D, even in long exposures, that the camera required no noise reduction feature. Recent advances in Canon's EOS digital technology and ultra-low noise CMOS sensors mean that one can now photograph the heavens in the night sky with very low noise. In the EOS 20D, noise has been reduced even further.

The new second-generation, 3-stage on-chip noise reduction circuit cuts the creation of undesirable artifacts by amplifying the sensor's output signal in slow-read steps. The circuit features a new low-noise gain amp and offset reduction. The new CMOS sensor produces less noise to begin with because of more efficient light-gathering microlenses; greater input requires less amplification. The digital control circuit board has low-noise amplification. Two of its ten layers are dedicated ground layers, further reducing noise. The cumulative result of these improvements is lower noise in all images, but especially those shot at ISO 400 and higher. In fact, the noise level of the EOS 20D at ISO 1600 is roughly the same as the noise level of the EOS 10D at ISO 400, an improvement of nearly 2 full stops.

All circuit boards have been configured for low noise as well, and a long exposure noise reduction feature (C. Fn-02-1) has been added. It starts working when the exposure is 1 second or longer and uses the dark frame subtraction method. Dark frame subtraction

image processing, which can be turned on or off by the user, takes the same amount of time as the exposure. Even though the EOS 20D with its noise reduction feature turned off produces less noise during long exposures than the EOS 10D, the activation of dark frame subtraction produces maximum image quality during long exposures with the 20D.

All-New Autofocus System

Compared with the Canon EOS 10D, the 20D features greater AF detection precision, improved focusing performance in low light and an improved focusing point layout. The 20D has a totally new 9-point, CMOS, AF sensor. This new design, seen for the first time in the 20D, provides full cross-type performance with maximum apertures as small as f/5.6, yet it achieves up to 3 times the standard focusing precision when used with EF Lenses featuring maximum apertures larger than or equal to f/2.8. This is made possible by a new AF sensor design that features two sets of vertical line-sensitive linear pixel arrays for the central cross-type focusing point. When an f/2.8 or faster lens is used, the camera automatically switches to a wider baselength measurement system to maximize autofocusing precision.

The new central cross-type sensor also has a dual line vertical component with twice as many pixels for horizontal line detection as the 10D, resulting in more consistent focus detection. Similarly, the off-center focusing points feature a baselength that is 30% longer than the type used in the 10D, resulting in greater focusing precision for those points as well when compared to previous EOS models. This is the first time that an f/2.8 compatible sensor has been used on a camera other than the EOS-1 and EOS-3 series of cameras.

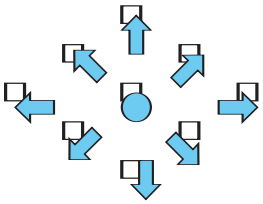
The other eight AF points are single-axis sensors that are sensitive to maximum apertures as small as f/5.6. Four of those points are near a golden section point, in keeping with classical theories of harmony, proportion and balance in composition. Use of these four points should help to make well-balanced, and perhaps lovely, images.

Thanks to the new sensor, focusing sensitivity in low light has been improved by 1 stop compared with the EOS 10D. The brightness range for focusing is now EV –0.5 to 18.

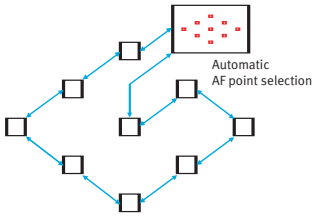
The new AF unit is configured to minimize ghosting. Unwanted light is blocked by narrowing the field of view and the separator uses a low-reflectance material. Additionally, the AF optics and framework have a low-line expansion coefficient and a low moisture absorption coefficient that make them highly resistant to temperature and humidity changes, thus maintaining maximum performance under all shooting conditions.

The EOS 20D has three autofocus modes in addition to manual focus: One Shot AF (AF operation stops and locks when focus is achieved), AI Servo AF (tracks subject movement and focuses continuously until the start of the exposure), and AI Focus AF (automatic switching between One Shot and Predictive AI Servo). In the Basic Zone

modes, the optimum AF mode is set automatically. In the Creative Zone modes, one can select any AF mode. In the Sports mode, AI Servo AF is set automatically.



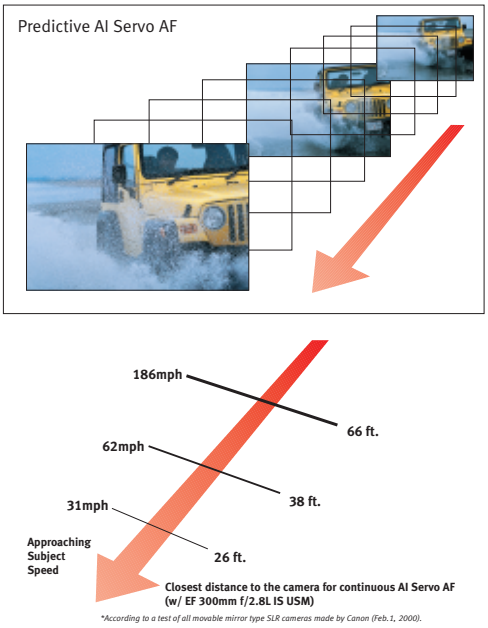
Multi-controller operation



Main Dial/Quick Control Dial operation

AF points can be selected automatically by the camera or quickly and directly with the Multi-controller. Press the AF point selection button and then move the Multi-controller in any of eight directions or in at the center. Pressing the Multi-controller in the center will select the center AF point. Moving the Multi-controller in the direction of the currently selected AF point activates AF point selection and all the AF points will light. Similarly, if one presses the Multi-controller twice in any direction, automatic AF point selection will be set.

An alternative AF point selection method is: press the AF point selection button and then turn the Main Dial or the Quick Control Dial. If C. Fn-13 is enabled, one can skip pressing the AF point selection button and just use the Multi-controller (C. Fn 13-1) or the Quick Control Dial (C. Fn 13-2) to select the AF point directly.



In AI Servo AF with an EF 300mm f/2.8L IS USM lens, Predictive AF can focus track a subject approaching at a speed of 186 mph up to about 66 feet away. The 20D uses statistical prediction, incorporating the focusing data of past focusing operations. Because it can repeat more focusing operations in a short length of time, the Predictive AF control can operate effectively from the first shot, even for a subject moving erratically. If the subject is not moving, the AI Servo AF focus control is very stable and will not permit the lens to move, even minutely. If the subject moves suddenly, the 20D will be ready to track it immediately.

Autofocusing on the EOS 20D is speedy, thanks to the high-performance, 32-bit RISC microcomputer and an improved AF sequence (AF processing front loading, SI illumination, metering executed in parallel with the lens drive and mirror swing-up) to match.

As with the EOS 10D, AF-assist is provided by a series of stroboscopic flashes from the built-in flash or an external, EOS-dedicated Speedlite. The working range for the built-in AF-assist function is approximately 4m/13.1 ft. at the center and approximately 3.5m/11.5 ft. at the other 8 AF points. Custom function 5 enables and disables this feature. Optional Speedlite 580EX is equipped with a powerful AF Assist beam that is effective at distances up to 10m/33 ft. when greater distance is desired.

Speedlite 580EX on EOS 20D

New E-TTL II Autoflash Algorithm

The new E-TTL II autoflash control uses the algorithm just introduced in Canon's professional landmark EOS-1D Mark II. E-TTL II takes effect when the built-in flash or an EX-series Speedlite is used. It is no longer assumed that the AF point covers the main subject. Now, when the shutter button is pressed completely, ambient light is measured just before a pre-flash fires. For each metering zone, the ambient reading and the pre-flash reading are compared.

Areas having a large difference between ambient and pre-flash readings are selected. Extreme differences suggest a highly reflective or specular object; these areas are eliminated from calculations, avoiding underexposure. When a lens providing distance information is used, this data is also considered in determining the presence and location of a high-reflectance object. The selected pre-flash readings are added and averaged and the output of the main flash is calculated. Even if the subject changes position, reflectance or size, the flash metering remains highly accurate and stable.

New Built-In Flash

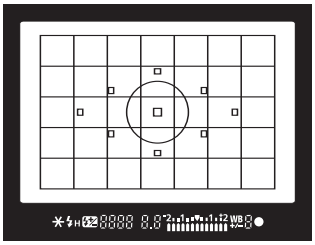
The new, built-in flash of the Canon EOS 20D supports E-TTL II and has an arm that permits the flash center to be 18.6mm higher than the unit on the EOS 10D. This reduces the chance that red-eye will occur or that the lens barrel will obstruct flash coverage. The relative positions of the reflector and the xenon flash tube have been optimized and the fresnel flash panel's transparency has been increased, permitting a wider field of coverage, up to a 17mm focal length (equivalent to 27mm in 35mm format), while maintaining the same guide number as the EOS 10D's flash unit.

The built-in flash and the new accessory Canon 580EX Speedlite send color temperature data to the processor each time the flash fires. This useful feature takes into account a host of variables, including battery condition and flash duration, offering assurance of unprecedented color accuracy and consistency from shot to shot.

The built-in flash's retraction and pop-up have been improved with rubber fitted to the stopper in order to cushion the pop-

up. A new latch mechanism has been incorporated to reduce the gap around the flash unit. A custom function can disable firing of the built-in flash an external Speedlite or a non-Canon flash connected to the PC terminal.

New Precision Matte Focusing Screen



Viewfinder

The EOS 20D features a newly developed Precision Matte focusing screen that has optimally distributed microlenses. By controlling the microlens curvature, the overall light distribution angle is determined. By optimizing the microlens arrangement, the wide light distribution angle's characteristic is controlled as appropriate when a fast lens is attached. Because of improvements to the shape of the microlenses, it is easy to distinguish the precise point of focus during manual focusing, especially with lenses f/2.8 or faster. The new Precision Matte focusing screen has also reduced viewfinder coloration and increased brightness compared with the EOS 10D.

Picture Size Auto Zoom

When the Speedlite 580EX accessory flash unit is used, the flash automatically detects the EOS 20D's sensor size. The Picture Size Auto Zoom function controls the zoom and automatically sets the optimum flash coverage, effectively increasing the guide number of the flash as well as the number of flashes per charge.

New High Speed Shutter

The EOS 20D has a newly developed shutter with a top speed of 1/8000 sec., user-settable in 1/3 and 1/2 stop increments (in shutter speed priority AE and manual modes) and a maximum flash synchronization speed of 1/250 sec. First or second curtain flash sync is possible. The shutter's APS-C configuration allows a reduction in the size of the unit, smaller shutter blades with lower inertial mass, and shorter travel distance. Stronger magnets are used for each shutter curtain, permitting better control of the blades. A semiconductor switch replaces the traditional sync contacts, ending scorching and frictional wear while at the same time increasing the limit for trigger circuit voltage to 250V. The result of these changes is a more rugged and reliable shutter unit with substantially improved performance.

Support of EF-S Lenses

EF-S 10-22mm
f/3.5-4.5 USM

EF-S 17-85mm
f/4-5.6 IS USM

EF-S Lens compatibility is another way in which Canon has increased the performance and value of the EOS 20D. These lenses project a cone of light that covers the APS-C format; they are optimized for digital imaging. EF-S Lenses are smaller, lighter and less expensive than those designed to cover the 35mm format. To accommodate these lenses in the EOS 20D, the mirror swing-up mechanism moves the mirror back as it goes up. The mirror itself is smaller compared to the 10D. The EOS 20D shares EF-S compatibility with the EOS Digital Rebel. When purchased with the zoom lens kit, the EOS 20D comes with the EF-S 18-55 mm f/3.5-5.6 lens. Canon is

introducing the EF-S 10-22mm f/3.5-4.5 USM and EF-S 17-85mm f/4-5.6 IS USM lenses simultaneously with the EOS 20D.

New Power System Upgrades

Battery Pack BP-511A

Battery Pack BP-512

The EOS 20D can be powered by lithium-ion battery packs BP-511A, BP-511 and BP-512. The BP-511A holds 1390 mAh, roughly 25% more than the 1100 mAh of the 511 and 512. The new accessory, Battery Grip BG-E2, which has an L-shaped grip and vertical camera controls, will take two BP-511A, BP-511 or BP-512 battery packs, or six size AA batteries. The AA batteries can be alkaline, NiMH, or lithium. In North America and Japan, Battery Charger CG-580 will be bundled with the EOS 20D. Conveniently, its power plug is built into the charger. It can recharge the lithium-ion battery packs listed above in about 90 minutes.

The date/clock backup battery has been switched to a CR2016, the life of which is approximately 5 years. It is located in the power system battery chamber.

AC operation is possible with the accessory AC Adapter Kit ACK-E2.

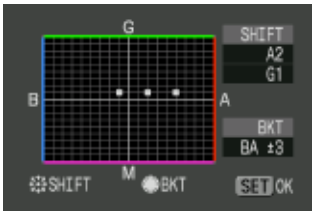
To minimize the increase in power consumption caused by the new, high-speed, 4-channel reading, the output amp's power consumption is kept to an absolute minimum. Power to the output amp is cut off during long exposures and, as with the EOS-1D Mark II, the circuit-driving standard current is also cut off, resulting in less power consumption and less noise. As a result, shooting capacity for the EOS 20D is approximately 50% higher than the EOS 10D.

New Multi-controller

Multi-controller

The new Multi-controller button near the top right corner of the LCD is a breakthrough in the ease of operation of digital single lens reflex cameras. The Multi-controller can be moved in 8 directions: up/down, left/right and diagonally. It can be used for AF point selection, scrolling during enlarged playback, positioning of the trimming frame for direct printing, and setting white balance compensation.

White Balance System



The auto white balance has been improved from that of the EOS 10D and the EOS Digital Rebel to make color reproduction more accurate and natural. Moreover, with DIGIC II and an improved algorithm, the white balance is now more stable, especially at high ISO settings. Also, color reproduction (natural reds) under low color temperatures such as tungsten has been improved along with skin tone accuracy.

There are nine white balance modes available on the EOS 20D: Auto, Daylight, Shade, Cloudy, Tungsten, Fluorescent, Flash, Manual/Custom, and Manual/Color Temperature Set Directly. Especially including the last two, the 20D offers an almost infinite range of control.

The EOS 20D has a remarkable new system that incorporates the flash's color temperature information in the image processing. When the built-in flash or the accessory Speedlite 580EX is used and the white balance is set to "AWB" or "Flash," the white balance will be much more accurate for low light photography.

White Balance Correction

As with the professional Canon EOS-1D Mark II, white balance mode settings can be modified and refined on the EOS 20D. One can obtain the same effects as using a color compensating (CC) filter or a light balancing (LB) filter. Each color can be corrected in up to nine single-level increments. Both magenta/green and blue/amber bias can be set separately or in combination on the LCD monitor using the convenient Multi-controller. On the right side of the color display, "SHIFT" shows the correction information.

New White Balance Bracketing

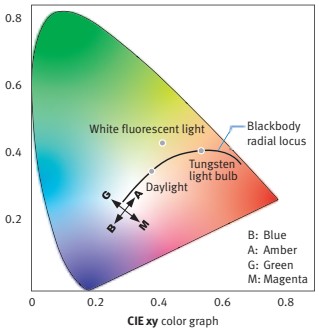
As with the EOS 10D, a single shot results in three bracketed images, each having a different balance. WB bracketing is set on the LCD monitor with WB correction. "BKT," on the right side of the screen, shows bracketing information. One can bracket up to +/- 3 levels in 1-level increments. With a custom function, C. Fn-09, the bracketing sequence can be controlled. As in the EOS-1D Mark II, either blue/amber or magenta/green bracketing is possible. White balance bracketing can be used in combination with white balance correction and even AEB, auto exposure bracketing, in which case 9 images will be saved to the CF card. These are highly useful and powerful tools.

New Menu Features

The basic operation method (Main Dial, Quick Control Dial and SET button) is the same as the EOS 10D's scrolling system. The three LCD monitor menu sections are Shooting (Quality, Red Eye On/Off, Beep, Shoot w/o card, AEB, WB SHIFT/BKT, Custom WB, Color temp, Color space, Parameters), Playback (Protect, Rotate, Print Order, Auto Play, Review time) and Setup (Auto power off, Auto rotate, LCD Brightness, Date/ Time, File numbering, Language, Video System, Communication, Format, Custom Functions, Clear Settings, Sensor clean, Firmware Version).

The EOS 20D has the tab (icon and color code) of the current menu displayed on the upper left of the LCD screen. The upper right has a newly added indicator of what

happens when one presses the JUMP button (moves to the first item in the next menu category). The function that prevents shutter release when there is no CF card installed is now a menu setting instead of a Custom Function. This will prevent users from forgetting to install a CF card, even in a Basic Zone mode.



CIE xy color graph

The WB compensation feature has been added and both the WB compensation and WB bracketing can be set on the same screen. In Shooting› Color space, Adobe RGB is now a separate setting that can be selected along with sRGB. Adobe RGB can also reflect any image processing parameter setting such as sharpening, contrast, saturation or color tone. Two EOS 10D settings, Image review and Image review time, have been combined. Pressing the Info button while an image is displayed changes the display format of single-image playback. In Setup› LCD Brightness, the image and gray chart are displayed together on the screen. Three new languages have been added. Finally, and very usefully, if a CF card containing a firmware update is installed in the camera, the firmware update will start when this item is selected.

There are two significant upgrades in the operation of the 20D with regard to menu functions. First, after continuous shooting, one can still use the menu even while the data is being written to the CF card. Second, the 20D becomes ready to shoot instantly when the shutter button is pressed halfway, even during menu display or image playback.

New Superimposition Display in Viewfinder

Newly developed superimposition display optics have been incorporated in the viewfinder. The light from the superimposition LED positioned on the upper rear of the pentaprism goes through the SI prism and pentaprism. This light is then projected in the configuration of the AF points on the fine reflective surface of the acrylic reflective plate between the pentaprism and the focusing screen. The result is a very bright and crisp display that is easy to see in all light levels from very bright to quite dark.

New Custom Functions

The EOS 20D has 18 Custom Functions with 50 possible settings. Compared with the EOS 10D, there are five new functions: C. Fn-02, long exposure noise reduction, works with shutter speeds of 1 second or longer. C. Fn-08 is ISO expansion (to ISO 3200), off/on. C. Fn-13 enables the AF point to be selected with the Multi-controller directly or with the Quick Control Dial/ Main Dial. C Fn-14 changes E-TTL II from evaluative metering to averaging of the entire image for flash metering. C. Fn-18 adds original image verification data automatically, for use with the optional accessory Data Verification Kit DVK-E2.

Four Custom Functions have been changed: C. Fn-03, Flash sync speed in Av mode has had the flash sync speed changed to a fixed 1/250 sec. C.Fn-05 on the EOS 10D, “AF-assist beam/Flash firing,” has been split in two, C. Fn-05 (AF-assist beam: Emits, Does not emit, Only ext. flash emits) and C. Fn-07 (Flash firing: 0: Fires and 1: Does not fire- that

is, all flash units will not fire). C. Fn-06, Exposure level increments, has been changed to 0: 1/3 stop and 1: 1/2 stop.

Five Custom Functions have been deleted from the EOS 10D: Shutter release without a CF card, which was moved to a menu setting; AF point registration and Assist button function, both obviated because the Assist button has been discontinued; RAW + JPEG simultaneous recording, replaced by 13 Quality settings selected directly from the menu, and last, Daylight fill-flash and auto reduction control of flash exposure, replaced by C. Fn-14, E-TTL II, evaluative or average.

In sum, these changes permit direct and logical access to controls that can lower noise, alter the interface between user and camera according to taste and habit, and instruct the camera about how to calculate exposures. In just the first few minutes of use, the EOS 20D will reveal itself as responsive, intuitive and, in fact, delightful.

Custom Function Number	Function Description	Setting	Final Outcome
C. Fn-01	SET button function when shooting	0	Default (No function)
		1	Change quality
		2	Change parameters
		3	Menu display
		4	Image Display
C. Fn-02	Shutter release w/o CF card	0	Possible w/o CF card
		1	Not Possible
C. Fn-03	Flash sync speed in Av mode	0	Auto
		1	1/200 sec. (Fixed)
C. Fn-04	Shutter button/AE lock button	0	AF/AE lock
		1	AE lock/AF
		2	AF/AF lock no AE lock
		3	AE/AF no AE lock
C. Fn-05	AF-assist light/Flash firing	0	Enabled/Enabled
		1	Disabled/Enabled
		2	External Speedlite only/Enabled
		3	Enabled/Disabled
C. Fn-06	Exposure setting increments	0	1/2-stop
		1	1/3-stop
C. Fn-07	AF point registration	0	Center AF point
		1	Bottom
		2	Right
		3	Extreme right
		4	Automatic Selection
		5	Extreme left
		6	Left
		7	Top
C. Fn-08	RAW+JPEG image recording	0	RAW+Middle/Fine
		1	RAW+Middle/Normal
		2	RAW+Small/Fine
		3	RAW+Small/Normal
		4	RAW+Large/Fine
		5	RAW+Large/Normal
C. Fn-09	Bracketing sequence/Auto cancel	0	0→-→+/Enabled
		1	0→-→+/Disabled
		2	0→0→+/Enabled
		3	0→0→+/Disabled
C. Fn-10	Superimposed display	0	Enabled
		1	Disabled
C. Fn-11	Menu display position	0	Preceding menu (goes to top when power off)
		1	Preceding menu
		2	Top menu
C. Fn-12	Mirror lockup	0	Disabled
		1	Enabled
C. Fn-13	Assist button function	0	Normal
		1	Change to HP
		2	Change to HP (When held down)
		3	AV± (Quick Control Dial: AF point selection)
		4	FE lock
C. Fn-14	Daylight sync and automatic flash output reduction	0	Enabled
		1	Disabled
C. Fn-15	Flash sync timing	0	Front-curtain sync
		1	Rear-curtain sync
C. Fn-16	Safety shift setting	0	Disabled
		1	Enabled
C. Fn-17	Lens AF stop button function	0	AF stop
		1	AF start
		2	AE lock (during metering)
		3	AF point manual→Auto Auto→Center
		4	ONE SHOT ↔ AI SERVO
		5	Image Stabilizer operation
C. Fn-18	Add original decision data	0	Off
		1	On

Custom Function Chart

Shooting Modes

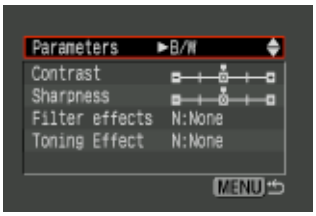
The EOS 20D has twelve shooting modes, seven Basic Zone modes (Full Auto, Portrait, Landscape, Close-Up, Sports, Night Portrait and Flash Off) and five Creative Zone modes (Standard Program AE, Shutter-Priority AE, Aperture-Priority AE, Manual and Depth-Of-Field AE). All can be accessed with the Mode Dial on the top left side of the camera.

Mode Dial

New Processing Parameters

The processing parameters are controlled through the menu selection Shooting› Parameters. There are six choices available: Parameter 1 is the automatic setting for the seven Basic Zone modes (Portrait, etc.). This is equivalent to the “Vivid and Crisp” default setting for the EOS Digital Rebel, and is intended to reduce the need for post-processing for Direct Printing or other printing applications. Parameter 2 is the default setting for the five Creative Zone modes (Aperture-Priority AE, etc.). This setting features lower contrast, sharpening and saturation than Parameter 1, making it more suitable for users who wish to maximize image quality with a computer prior to final output. The user may also create up to three custom sets of parameters, controlling contrast, sharpness, saturation and color tone in five steps: -2, -1, 0, +1, +2. As noted

earlier, these settings can be applied to Adobe RGB as well as sRGB images.



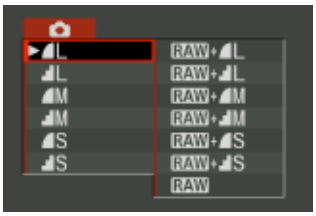
Finally, there is a remarkable new monochrome setting, a first for Canon digital single lens reflex cameras, which permits the direct capture of black and white images. The selectable controls in this case are five levels each of contrast and sharpness; five filter effects (none, yellow, orange, red and green) and five color tone options (none, sepia, blue, purple and green). The filter effects are a first for all digital SLRs. They use digital processing to provide alterations like those of color camera filters when shooting black and white film: similar lightens and opposite darkens. Blue sky tones can be darkened progressively with yellow, orange and red filters; green foliage can be lightened with the green filter. The digital toning option creates images that appear to have been treated in a toning bath. Goodbye toxic fumes and stained clothing.

Recording System

The EOS 20D is compatible with CompactFlash cards up to 2 GB and higher. The recording options, selectable from the menu, are: JPEG alone in recording resolution of 8.2, 4.3 or 2.05 megapixels (Large, Medium or Small) with a choice of Fine (low compression) or Normal (high compression) for each, Canon's new CR2 RAW format alone, or a combination of RAW plus JPEG in which all the JPEG options are available in addition to CR2 RAW. RAW and JPEG images files are recorded separately on the CF card rather than being embedded in one file. Embedding requires dedicated software to extract the JPEG file from the RAW file, consuming post-production time and compromising security.

When the image is captured, main, secondary (EXIF data), manufacturer's and thumbnail information is recorded. The image recording format complies with both DCF 2.0 and EXIF 2.21.

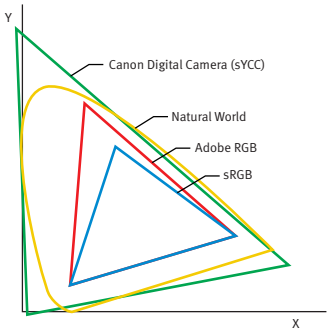
New CR2 Raw Format



The Canon EOS 20D incorporates the same new RAW format featured in Canon digital cameras from the EOS-1D Mark II onward. The file extension is .CR2 (Canon RAW, 2nd edition). The RAW data records the white balance (preset, correction, bracketing information), processing parameters, and other settings. When a personal computer is used to edit the image, all of these settings can be left "as is" or changed via compatible conversion software such as Canon's EOS Viewer Utility. Because it is raw data, the image can be edited freely with image editing software such as Canon's Digital Photo Professional.

Compliance

The EOS 20D complies with DCF 2.0, revised to support Adobe RGB, and Exif 2.21. Images taken in Adobe RGB will have the Adobe RGB color space information, not the ICC profile, appended to the Exif information. (If Adobe RGB is selected from the 20D's Color Space menu, all processing parameters are available.) Therefore, applications and devices



compatible with DCF 2.0 and Exif 2.21 (including Adobe Photoshop CS) will be able to handle Adobe RGB in the same way as sRGB. When software compatible with Exif 2.21 is used, images captured with the EOS 20D will open automatically in the Adobe RGB color space. When a printer that complies with Exif 2.21 is used, the printer will adjust the color saturation of the print suitably. There is no need to worry about color space any longer.

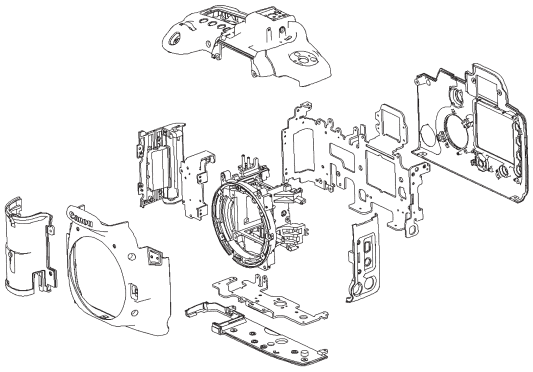
Camera Direct Printing

As with the EOS 10D, the EOS 20D is compatible with PictBridge, CP Direct and Bubble Jet Direct. It also enables DPOF Print Ordering, Version 1.1. The basic specifications are the same as those of the EOS-1D Mark II. Printer communications can be set to Normal or PTP with the menu's Communication setting. PictBridge, CP Direct and Bubble Jet Direct all allow up to 8 steps of horizontal trimming, up to 5 steps of vertical trimming, and a range of print sizes. Direct Printing with the EOS 20D is significantly faster than the EOS 10D or Digital Rebel because of the 20D's DIGIC II Image Processor.

PIXMA iP4000 and EOS 20D

Construction

The EOS 20D's top, front and rear covers are made of magnesium alloy which, although it is costly for the price segment, is very strong and light and gives the camera an exceptionally solid feel. The body consists of a chassis made of stainless steel and a mirror box made of high-strength engineering plastic. The mirror box is fixed securely to the chassis to prevent the flange focal distance from changing because of static pressure from an attached lens.



The exterior paint is a high-grade, black satin, leathery finish with a finer pattern than before, adding to the quality feel of the camera. The Canon logo on the front of the camera is set in relief, another extra-cost touch that heightens the perception of the 20D as a high-end product. Thoughtful details like the "finger cut" shape around the shutter button and the gentle curves surrounding the lens mount reinforce this perception.

The EOS 20D is both smaller and lighter than the 10D. The 20D is 100 grams lighter the 10D. The width, height and depth have been reduced by 5.7, 2 and 3.5mm respectively. The shutter unit, mirror box, main mirror, pentaprism, focusing screen and viewfinder optical unit have all become smaller as they were optimized for the APS-C sensor.

The 20D has nearly 100 fewer parts than the 10D. more than 50 of which are electrical.

The Digital Rebel digital control board was split in two so that a revised layout of parts and a streamlined board shape could be employed, reducing size, giving more flexibility in exterior design and making assembly adjustments more efficient.

The DIGIC II and the newly developed ADIC (Analog/ Digital Integrated Circuit) and TG (Timing Generator) reduce parts count and aid reliability. The 5 hard and 22 flexible circuit boards have been more integrated, reducing cost.

The orientation detection circuit in previous EOS cameras had separate switches for sensing horizontal and vertical. In the 20D, the circuit has one four-way switch that can detect horizontal and vertical directions. One switch occupies less space and reduces complexity.

New Accessories

Several useful and important new Canon products will be available at the time of the EOS 20D's introduction:

Battery Grip BG-E2

The Battery Grip BG-E2 uses two of the BP-511A/511/512 or 514 batteries that are used singly in the EOS 20D alone. With the supplied size AA battery magazine, ordinary alkaline, lithium or NiMH AA batteries can be used. The extra power provides a useful extension to the shooting capacity of the 20D. Additionally, the BG-E2 has handy vertical controls for the electronic control dial and the shutter release.

Speedlite 580EX

The new Canon Speedlite 580EX is a high-end flash unit tailored to the digital era. It has a maximum guide number of 58/191 at ISO 100 in meters/feet. It is equipped with an AF-assist beam compatible with all EOS AF systems and dial controls for easier operation. The built-in wide panel now covers focal lengths as wide as 14mm even on full-frame EOS SLRs, and a new catchlight reflector is handy for bounce flash photography. The 580EX has a new and intelligent auto zoom for image size function that effectively raises the actual guide number for APS-H and APS-C size D-SLRs. Like the built-in flash on the EOS 20D, the 580EX sends color temperature information to the camera when it fires. Both the auto zoom and color temperature features will be made compatible with the EOS-1D Mark II with a scheduled firmware upgrade. There are also 14 custom functions on the 580EX, 8 of which are brand new. The Speedlite 580EX has one new accessory, the Compact Battery Pack CP-E3, which uses 8 AA-size batteries to reduce recycling time and increase the number of flashes per charge.

Two lenses are being added to the extensive system of Canon optics. First is the EF-S 17-85mm f/4-5.6 IS USM, a powerful standard zoom lens that provides an excellent match for the EOS 20D. Its zoom range is roughly equivalent to 27-136mm in the full-size

35mm format. Its EF-S design is used to produce a small, lightweight lens that still gives high image quality. The IS designation means the lens has an Image Stabilizer whose performance is equivalent to approximately 3 shutter speed increments. The placement of its component elements and the coatings selected are optimized for suppression of the flare and ghosting prevalent in digital cameras. The second new lens being introduced is the EF-S 10-22mm f/3.5-4.5 USM. This is the lens that will return practical wide-angle photography to budget-priced D-SLRs. Its small size, lightweight, reasonable cost and exceptional performance eliminate one of the few remaining annoyances with most D-SLRs, the conversion factor which makes lenses designed for 35mm work longer effectively than their marked focal lengths. On the EOS 20D, the EF-S 10-22 is the equivalent of a 16-35mm lens on a full-frame camera, wide enough to satisfy the vast majority of serious amateurs and working professionals.

The new, optional DVK-E2 Data Verification Kit is a significant advance for the use of digital photography in forensic and law enforcement applications. The kit consists of a dedicated Secure Mobile Card DV-E2 (SMC), a new SMC card reader with small USB adapter, the EOS Data Verification Disk which is Windows 2000/XP compatible and a manual. The system can verify that EOS 20D, EOS-1D Mark II and EOS-1Ds RAW or JPEG image files have not been altered.

DVK-E2 Data Verification Kit

IV. SPECIFICATIONS

Camera Type

Type: Digital AF/AE SLR
Recording Medium: Type I and II CF card
Image Size: 22.5 x 15.0mm (0.89 x 0.59 in.)
Compatible Lenses: Canon EF lenses including EF-S Lens. (Focal length conversion factor: Equivalent to approx. 1.6x indicated focal length compared to 35mm format.)
Lens Mount: Canon EF mount

Imaging Element

Type: High-sensitivity, high-resolution, single-plate, color CMOS sensor
Effective Pixels: Approx. 8.25 megapixels
Total Pixels: Approx. 8.5 megapixels
Aspect Ratio: 2:3 (Vertical:Horizontal)
Color Filter System: RGB primary color filter
Low-pass Filter: Fixed position in front of the image sensor

Recording System

File Format: Design rule for Camera File System. Exif 2.21 compliant
Recording Formats: JPEG and RAW
File Size* (on CF card): JPEG: (1) Large/Fine: Approx. 3.6MB (3504 x 2336), (2) Large/Normal: Approx.1.8MB (3504 x 2336), (3) Medium/Fine: Approx. 2.2MB (2544 x 1696), (4) Medium/Normal: Approx. 1.1MB (2544 x 1696), (5) Small/Fine: Approx. 1.2MB (1752 x 1168), (6) Small/Normal: Approx. 0.6MB (1752 x 1168); (7) RAW: Approx. 8.7MB (3504 x 2336) (8) RAW + Small/Normal: Approx. 9.3MB (9) RAW + Small/Fine: Approx. 9.9MB (10) RAW + Medium/Normal: Approx. 9.8MB (11) RAW + Medium/Fine: Approx. 10.9MB (12) RAW + Large/Normal: Approx. 10.5MB (13) RAW + Large/Fine: Approx. 12.3MB.
* Exact file sizes depend on the subject and ISO speed.
Folder Setting: Automatic
File Numbering: (1) Continuous numbering, (2) Auto reset
Processing Parameters: Parameters 1, 2; Set 1 to 3, monochrome
Interface: USB 2.0 High Speed

White Balance

Settings: Auto, daylight, shade, overcast, tungsten bulb, fluorescent light, flash; Manual (Custom: read off photo quality gray card or white subject, color temperature)
Auto White Balance: Via image sensor data
White Balance Compensation: ± 9 steps in 1-step increments
White Balance Bracketing: ±3 steps in 1-step increments

Viewfinder

Type: Eye-level SLR (with fixed pentaprism)
Coverage: Approx. 95% vertically and horizontally (Coverage against JPEG Large)
Magnification: 0.9x (-1 diopter with 50mm lens at infinity)
Eyepoint: 20mm
Built-in Dioptric Correction: -3.0 – +1.0 diopter
Focusing Screen: Fixed, Precision Matte Screen
Mirror: Quick-return half mirror (Transmission: reflection ratio of 40:60. No mirror cut-off with lenses up to EF 600mm f/4L IS)
Viewfinder Information: AF (AF points, focus confirmation light), exposure (shutter speed, aperture value, manual exposure, AE lock, exposure compensation amount, AEB level, partial metering area), flash (flash ready, red-eye reduction lamp on, high-speed sync, FE lock, flash exposure compensation), warnings (exposure warning, improper FE lock warning, CF card full warning, CF card error warning, no CF card warning, busy), maximum burst for continuous shooting, shots remaining
Depth-of-field: Enabled with depth-of-field preview button
Eyepiece Shutter: None

Autofocus

Type: TTL-CT-SIR with AF-dedicated CMOS sensor (TTL Cross-Type secondary image registration)
AF Points: *9*
AF Working Range: EV -0.5 -18 (at ISO 100)
Focusing Modes: One-Shot AF, Predictive AI Servo AF, AI Focus AF (Automatically selects One-Shot AF or AI Servo AF), Manual focusing (MF)
AF Point Selection: Automatic selection, manual selection
Selected AF Point Display: Superimposed in viewfinder and indicated on LCD panel
AF-assist Beam: Intermittent firing of built-in flash, effective range: approx. 13.1 ft/4m at center, approx. 11.5 ft/3.5m at periphery

Exposure Control

Metering Modes: Max. ap erture TTL metering with 35-zone SPC. (1) Evaluative metering, (2) Partial metering at center (approx. 9% of viewfinder), (3) Centerweighted average metering (in manual exposure mode)
Metering Range: EV 1-20 (at 20°C/68°F with 50mm f/1.4 lens at ISO 100)
Exposure Control Systems: Program AE (shiftable), Shutter-priority AE, Aperture-priority AE, Auto Depth-of-field AE, Full Auto, Programmed Image Control modes (Portrait, Landscape, Close-up, Sports, Night Portrait, and Flash OFF), E-TTL II Autoflash Program AE, and Manual

Exposure Compensation

ISO Speed Range: Equivalent to ISO 100-1600 (ISO 3200 available via menu selection)
Up to +/-2 stops in 1/2 or 1/3-stop increments (1) AEB (Auto exposure bracketing).
(2) Manual exposure compensation
AE Lock: Auto: Operates in One-Shot AF mode evaluative metering when focus is achieved. Manual: Enabled with AE lock button. No AE lock in Programmed Image Control modes

Shutter

Type: Vertical-travel, mechanical, focal-plane shutter with all speeds electronically-controlled
Shutter Speeds: 1/8000 to 30 sec. (1/3-stop increments), bulb, X-sync at 1/250 sec.
Shutter Release: Soft-touch electromagnetic release
Noise Reduction: Settable with C.Fn-02 (Noise reduction for long exposures)
Self-Timer: 10-sec. delay
Remote Control: Remote Control with Remote Switch RS-80N3, Timer Remote Controller TC-80N3 or Wireless Controller LC-4

Flash

Built-in Flash: Type: Auto pop-up, retractable, built-in flash in the pentaprism. Guide No: 13/43 (at ISO 100 in meters/feet), Recycling time: Approx. 3 sec., Flash ready indicator: Flash-ready icon lights on in viewfinder.
Flash Coverage: Up to 17mm focal length (equivalent to approx. 28mm in 35mm format)
EOS-dedicated Speedlite: E-TTL II auto flash with EX-series Speedlite. PC Terminal provided, not sensitive to PC card polarity; maximum sync line voltage 250 volts

Drive System

Drive Modes: Single, Continuous, Self-Timer
Continuous Shooting Speed: Approx. 5 fps (at 1/250 sec. or faster for all recording qualities)
Max. Burst During Continuous Shooting: 23 shots (JPEG Large/Fine)/6 shots (RAW)

LCD Monitor

Type: TFT color LCD monitor
Monitor Size: 1.8 inches
Pixels: Approx. 118,000 pixels (Displayed pixels)
Coverage: Approx. 100% (for JPEG images)
Brightness Adjustment: 5-levels (settable with menu's "LCD brightness")

Image Playback

Image Display Format: (1) Single image, (2) Single image with information, (3) 9-image index, (4) Magnified Zoom (single image) up to 10x, (5) Auto play
Highlight Alert: In the single image with information display mode, the highlight portions containing no image information will blink

Image Protection and Erase

Protection: A single image can be protected or unprotected
Erase: A single image or all images stored in a CompactFlash card can be erased if they are unprotected

Menus

Menu Categories: (1) Shooting Menus [8], (2) Playback Menus [4], (3) Setup Menus [14]
LCD Monitor Language: English, German, French, Dutch, Danish, Finnish, Italian, Norwegian, Swedish, Spanish, Chinese (simplified), and Japanese
Firmware Updating: Enabled by the user via file copied onto CF card

Power Source

Battery: One Battery Pack BP-511A/511/512/514 (lithium ion rechargeable battery)

Number of Shots

Configuration		No Flash Used	50% with Flash
Body (BP-511A)	Normal temp (68°F/20°C) Low temp (32°F/0°C)	1000 frames 750 frames	700 frames 550 frames
w/BG-E2 (BP-511Ax2)	Normal temp (68°F/20°C) Low temp (32°F/0°C)	2000 frames 1500 frames	1400 frames 1100 frames
w/BG-E2 (Size-AA NiMH x6)	Normal temp (68°F/20°C) Low temp (32°F/0°C)	250 frames 120 frames	120 frames 40 frames
w/BG-E2 (Size-AA Alkaline x6)	Normal temp (68°F/20°C) Low temp (32°F/0°C)	80 frames 0 frames	60 frames 0 frames

Dimensions and Weight

Dimensions (W x H x D): 5.7 x 4.2 x 2.8 in./144 x 105.5 x 71.5mm
Weight: 24.2 oz./685g (body only)

Working Conditions

Working Temperature Range: 0 - 40°C/32-104°F
Working Humidity: 85% or less

- All the specifications above are based on Canon's testing and measuring standards.
- The camera's specifications and physical appearance are subject to change without notice.

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V. CONCLUSION

The Canon EOS 20D outperforms the majority of D-SLRs on the market today regardless of price. Its superb image quality and fast, convenient operation make it perfect for most of the situations encountered daily by working professionals and advanced amateurs. Its system compatibility means its potential is vast. Its reasonable size and weight, combined with its rugged construction, make the 20D an easy camera to live with. For its performance, features and quality, its price is terrific. For its price, its performance, features and quality are remarkable. The Canon EOS 20D offers the best-balanced package of photographic excellence on the market today.

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